# Project Fact Sheet

## *PowerWheel Demonstration Project*

### GOALS

- Develop cost competitive hydropower technology.
- Develop very low head applications (6-15 feet).
- Achieve low cost installation.
- Ensure minimal effects on water quality.
- Demonstrate improved reliability/quality as compared to wind and solar energy.


### PROJECT DESCRIPTION

The purpose of this project is to demonstrate the technical, economic and environmental suitability of PowerWheel technology to generate electrical power from low head waterfalls. The PowerWheel is an updated version of the waterwheel, fabricated using modern materials and techniques. Its major innovation is that it uses a rotor with a large length to diameter ratio to drive standard generation equipment. The current demonstration unit, which is to be tested as both an overshot and an undershot waterwheel, is equipped with a DC generator and a dummy load so as to prove the concept. Peak output is projected to be about 35 kW in overshot mode and 100 kW operating as an undershot waterwheel.

### BENEFITS TO CALIFORNIA

It is anticipated that if successful, the PowerWheel could offer economic energy recovery from most of the 380 drop structures of more than 6 feet drop that exist in California's extensive irrigation canal system. Since PowerWheel is a California based company, the state would also accrue benefits from an increased manufacturing base and the resulting jobs it creates. The need for minimal civil

construction offers the prospect of reduced installation costs compared with other small hydro schemes, resulting in a more favorable COE.

## FUNDING AMOUNT

| | |
|---|---|
| Commission | $394,156 |
| Match | $400,000 |
| Total | $794,156 |

## PROJECT STATUS

The PowerWheel is currently undergoing evaluation and field testing in an irrigation canal near Lost Hills, CA. Project completion is expected by March 30, 2003.

## FOR MORE INFORMATION


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